

## ABSTRACT

Emulation of a guest computer architecture on a host system of another computer architecture. The guest computer architecture has programs composed of legacy instructions. To perform the emulation of the legacy instructions on the host system, the legacy instructions are accessed in the host system. Each particular legacy instruction is translated into one or more translated instructions for emulating the particular legacy instruction. State information is provided for determining a program execution mode for the legacy instructions. For each particular legacy instruction, a query is made to determine if translated instructions for execution mode remain stored as a result of a prior translation. If not stored, the legacy instruction is translated and the translated instructions are stored with the state information. If the translated instructions for the desired translation mode are already stored, emulation continues without need for further translation.